AFIP 2005:
Continuing Excellence
Building on Tradition, Shaping the Future

Armed Forces Institute of Pathology
Washington, DC

"The Armed Forces Institute of Pathology…functions as a sort of Supreme Court for difficult cases. Pathologists unsure of a diagnosis…can consult its experts and send them microscopic slides or other samples for review. Part of the institute's value lies in its pathological specimens dating to 1862—3 million pieces of preserved human tissue."

David Brown, Staff Writer
***The Washington Post*, 10 October 2005**

Director's Message

The AFIP receives thousands of second-opinion cases from the military, VA, and civilian medical communities each year. Our world-class staff renders diagnostic changes in over half the cases received and, in almost a quarter of them, makes the initial diagnosis. (See the attached CD for the Institute's comprehensive Annual Report.)

Next to our staff, our most valuable asset is our unique Repository of tissue specimens and blocks, which in 2005 accessioned the 3,000,000th case since the establishment in 1917 of a formal repository system by the Institute's predecessor, the Army Medical Museum. The Repository played a crucial role in the most talked-about scientific research of 2005: completion of the genetic code of the 1918 Spanish influenza virus, and how it came to kill over 50 million people worldwide. Jeffery Taubenberger, chief of the Department of Molecular Pathology, led a team of scientists who spent close to a decade unlocking the genetic mysteries extracted from paraffin-embedded tissue specimens taken at autopsy from soldiers who died in the flu epidemic. The team published their findings on the virus's last genetic segment in the October 6 issue of *Nature*, just as world leaders began pressing for extraordinary measures to prevent a possible new pandemic from the H5N1 bird influenza.

Our staff utilizes Repository materials in the 174 comprehensive pathology research protocols currently under way, and to develop journal articles, book chapters, and study sets. The Repository is also playing a valuable role in the development of tissue microarrays. The technology to create one slide containing 500 to 1,000 tiny cores taken from multiple tissue specimen blocks opens a new frontier in medical research, and will allow researchers to learn more in less time.

In 2005, the Department of Medical Education drew upon Repository materials to develop and conduct 45 courses attended by over 2,300 medical and scientific professionals, 5 conferences, and 24 Grand Rounds videoteleconferences to benefit U.S. military and civilian medical personnel. During the year, we awarded over 110,000 CME credits to military physicians, veterinarians, and other scientists.

In 2005, version 1 of AskAFIP™ debuted online. This application links the Repository with journal articles and books written by AFIP staff, and offers a unique way for pathologists to obtain CME credit. AskAFIP™ is available at no charge to military health care providers; other government physicians and civilian customers may pay a nominal fee. Version 2 is set to deploy in the spring of 2006. In addition, the AFIP is now managing the Army Telepathology Program. Twelve Army facilities are receiving the latest in telemedicine technology, giving our experts an even greater impact on patient treatment options. In 2005 we received $1.1 million from the Department of the Army to upgrade the technology essential to this program.

The Armed Forces Medical Examiner System and its staff of forensic experts provided a full accounting of all who gave their lives in the Global War on Terror during 2005, including comprehensive DNA and forensic toxicology analyses. The system's Mortality Surveillance Division collected data from these examinations that resulted in improved protective gear and survivability for our deployed forces.

2005 was also a year of change for the Institute. In November, the Base Realignment and Closure (BRAC) Commission's recommendations became law (see www.dod.mil/brac for more information). For now, the AFIP remains fully staffed and as committed as ever to providing the outstanding services the military and civilian medical and scientific communities have come to expect.

"I want to congratulate our outstanding employees. We are very proud of your dedication, hard work, and contributions in support of our deployed troops. You are the unsung heroes who daily serve to benefit military service members and their families. This is a good reminder of what Veterans Day is all about."

COL Renata B. Greenspan
The Director
AFIP Broadcast, Veterans Day 2005

Renata B. Greenspan, COL, MC, USA
The Director

The Armed Forces Institute of Pathology is a real institution, with dedicated scientists, soldiers, social scientists, physicians, and civilians.... With wide-ranging projects that involve national security, forensics, historical analyses, infectious disease investigations, and much more, the real AFIP is more fascinating than any novel.

Lori Andrews
Author of *Sequence*, a novel based on the AFIP (© 2006)

THE AFIP: CONTINUING EXCELLENCE
Building on Tradition, Shaping the Future

"The ready spread of infectious diseases in a global community, international military activity, and emerging and reemerging infectious diseases all justify an integrated facility that can support the military, VA, and civilians throughout the world."

Michael L. Wilson and
L. Barth Reller
***Clinical Infectious Diseases*, 2005**

Throughout its history, from the Civil War to the Global War on Terror, the AFIP, a tri-service agency of the Department of Defense, has adapted to meet new challenges. Today, those challenges range from the threat of global pandemic to political upheaval in distant corners of the world. In 2005, we enlarged our effort to meet the challenges of the Information Age and maintain our position as a world leader in consultation, education, and research by making our most valuable asset—our Central Repository of over 3 million case files and tissue specimens—more accessible to the global community.

For the last 5 years, we have been modernizing and preserving our Repository through digital conversion of 5 unique collections—Central Repository, Legal Medicine, Tumor Registry, Medical Illustration System Library, and BRAC. AFIP staff can now access millions of online records from perhaps the largest virtual digital pathology collection in the world.

Our informatics program covers each step in the cycle of our unique content, from case accession, to digital conversion and archiving, to diagnostic consultation by our expert staff, to cutting-edge research methodologies and state-of-the-art online education.

Digitization of histopathology slides creates "virtual" slides that can yield more than a gigabyte of storage and unparalleled resolution. We have employed this technology in support of our digital fascicle library and our most innovative research initiative—tissue microarray (TMA), wherein a single glass slide can hold 500 to 1,000 tissue specimens. New knowledge management techniques allow our staff to mine data from digitized patient records, including those from facilities closed under BRAC, and link them with tissue samples in the Repository. Additionally, the digitized collections of the Automated Central Tumor Registry (ACTUR) are available for collaboration and consultation on difficult diagnostic cases.

Knowledge management has greatly enhanced our distance learning initiatives, as embodied in the AskAFIP™ Web portal. Version 2, under development in 2005, offers continuing medical education (CME) credits to subscribing pathologists through a "time in study" model. Users accumulate CME credit by reviewing material posted on AskAFIP™ and supporting material from digital fascicles.

By maintaining traditional standards and adapting to emerging needs, the AFIP will continue to affirm its reputation as the gold standard in diagnostic pathology.

"At the laboratory I direct at the George Washington University Medical Center, we found that 80 percent of all breast cancer tumors have the gene BP1 activated—potentially an immensely significant development for the treatment and detection of breast cancer. Our findings were based on 46 patients. AFIP provided us with more than 300 breast cancer patient samples. Because our findings have been substantiated with AFIP's help, we are beginning work to develop a suppressor of the gene, a blood test and a vaccine."

Patricia E. Berg
***The Washington Post,* 14 June 2005**

VIRTUAL REPOSITORY

Since its inception almost 150 years ago, the AFIP has amassed a repository of tissue samples from more than 3 million clinical cases. Through a partnership with Information Manufacturing Corporation of Rocket Center, WV, we are keeping pace with current technology and clients' needs by digitizing millions of images and case records. Currently, cases and records available for electronic retrieval number in the millions, including nearly 700,000 from the Central Repository, 33,000 from Walter Reed Army Medical Center, and 3,000 from the Andrews AFB Cancer Registry. We are also digitizing data from the Automated Central Tumor Registry (ACTUR), a system that collects cancer data from 110 DoD medical centers into a central database to facilitate statistical reporting, epidemiology, and trend analysis.

BIOPHYSICS

Our researchers are developing highly sensitive and specific assays for detecting biological toxins in the field, including cholera and botulinum toxins. This research is critical to homeland security, protection of military combat personnel, and forensic analysis of terrorist incidents. We are also applying innovative techniques to the study of traumatic bone injury, which will have an immediate impact on the treatment and rehabilitation of injured service members. We are using magnetic resonance microscopy (MRM) to develop tissue-engineered bone implants for reconstructive surgery, and to compare the effectiveness of these implants with traditional bone grafts. MRM is a key technology in our studies of traumatic ear injuries and cochlear implants, and in forensic wound pattern analysis.

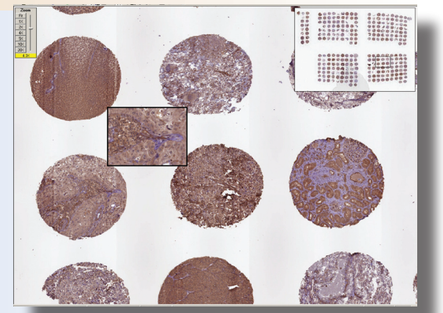
DEPARTMENT OF SCIENTIFIC LABORATORIES

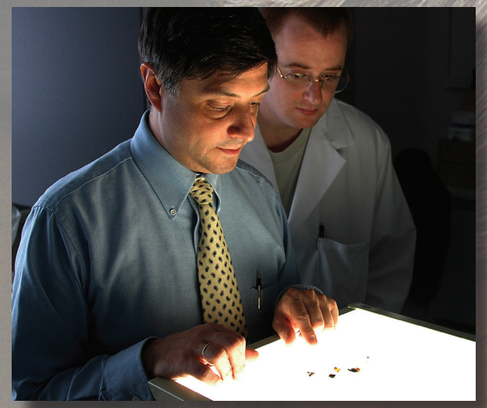
Our newest technological breakthrough, tissue microarray (TMA), is an innovative approach to the microscopic examination of tissue specimens. In traditional tissue-based research, one slide represents one disease at one site from one patient. With TMA, a single glass slide can hold 500 to 1,000 tiny cores punched from conventionally prepared tissue blocks from one or multiple patients. Using TMA, researchers and pathologists can learn more in less time, with greater efficiency in mounting, staining, and storing of specimens. Drawing on the AFIP's Repository, the world's largest collection of tissue specimens, we can make many thousands of slides without exhausting this historic resource. TMA greatly facilitates use of the collection, while opening exciting frontiers in research and biotechnology.

"A number of infectious diseases were first described at the AFIP on the basis of material from extensive fieldwork, the tissue repository, and the consultative services. This descriptive work continues today at the AFIP's Department of Environmental and Infectious Disease Sciences and the Division of Infectious and Tropical Disease Pathology and AIDS and Emerging Infections Pathology."

Michael L. Wilson and L. Barth Reller
***Clinical Infectious Diseases,* 2005**

TMA





"Scientists like Jeffery Taubenberger aren't just going to sit there waiting for a pandemic. They're gearing up for the war between bugs and humans."

Joel Achenbach
The Washington Post Magazine,
December 11, 2005

"The repository's value to researchers who are studying current, emerging, and reemerging diseases cannot be overestimated. An excellent example is the recent work done at the AFIP on the 1918 influenza pandemic, which has important implications with regard to the now-threatening avian influenza."

Michael L. Wilson and L. Barth Reller
Clinical Infectious Diseases, 2005

"I would like to thank the pathology and support staff of the AFIP for their assistance during my recent deployment to Iraq. The AFIP's diagnostic services via telepathology and regular consultations were tremendously appreciated by me, the men and women in uniform, and the Iraqis. It is hard to express how much it meant to have people helping me out half a world away."

MAJ Eric P. Fillman
AMEDD
November 2005

NATIONAL MUSEUM OF HEALTH AND MEDICINE

The National Museum of Health and Medicine has a broad agenda of innovative exhibits and educational programs that chronicle the evolution of medical practice and technology, with an emphasis on military medicine. Our efforts focus attention on issues of public and military health, serve as a bridge between medical science and the public, and help to recruit the health professionals of tomorrow. New technology is expanding our influence. Through the Information Manufacturing Corporation, 71,000 images from our illustration library have been scanned and are being cataloged and indexed. Grants and contracts from the NSF and NIH are allowing the staff to create extensive and unique electronically distributed image libraries for scholars and the public, and the museum website is linked from 141 other websites.

GYNECOLOGIC AND BREAST PATHOLOGY

The expanded role of women in the military has made monitoring and promoting women's health a matter of military preparedness. Our Department of Gynecologic and Breast Pathology is exploring new initiatives in collaboration with the Department of Scientific Laboratories. Together we are developing immunoperoxidase assays for breast tumor markers, including estrogen and progesterone receptors and genetic overexpression. Other genetic techniques currently under study in our laboratories could enhance the accuracy of diagnosis for premalignant lesions of the cervix, leading to earlier detection and better patient outcome.

ENVIRONMENTAL DIVISIONS

The Department of Environmental and Infectious Disease Sciences lends unique expertise in anatomical pathology and toxicology to the comprehensive study of cases from military, government, and civilian contributors.

Studies in environmental toxicology are conducted by 3 departmental divisions: Environmental Pathology, Environmental Toxicology, and Biophysical Toxicology. Year after year, these divisions' consultation, education, and research in global diseases has a significant impact on public health. Among their many areas of study, our expert staff investigate environmental factors and organisms that cause specific illness, adverse reactions to medications, and environmental threats and diseases that affect our deployed soldiers and their health upon return. In 2005 alone, we reviewed 5,596 diagnostic consultation cases.

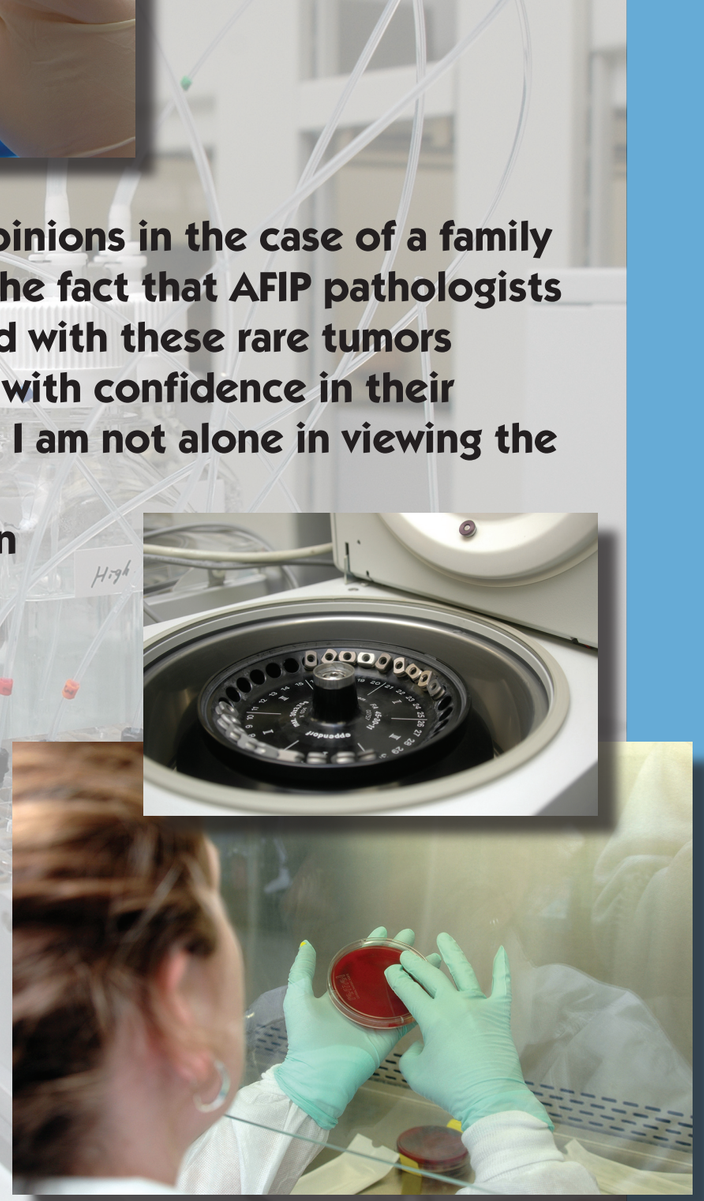
The INTOX Data Center consolidates all military-related databases, allowing us to follow up on war-related diseases in military personnel. In 2005 our staff contributed over 2,866 new specimens to the AFIP Military-Related Registries, which comprise the following registries and total cases:

- Former Prisoners of War (28,583 accessions from 14,559 former POWs)
- Vietnam War/Agent Orange (9,421 accessions from 7,775 patients)
- Kuwait/Persian Gulf War (13,248 accessions from 8,992 verified 1990-1991 Gulf War military veterans)
- Afghanistan and Operation Enduring Freedom (21 accessions from 21 patients)
- Operation Iraqi Freedom (645 accessions from 562 patients)
- Leishmania Registry (1,320 accessions from 1,088 patients)

The Division of Biophysical Toxicology provides analytical and archival support to the AFIP Depleted Uranium Registry. Division staff have developed a specimen management system for the registry, which in 2005 consisted of over 2,100 archived samples from the DU Biological Surveillance Program and 3 histological cases from the Baltimore-VA

"AFIP offered expert opinions in the case of a family member's rare tumor. The fact that AFIP pathologists have frequently worked with these rare tumors empowered our family with confidence in their consultation. I am sure I am not alone in viewing the AFIP as a tremendous resource for the civilian sector and nation as a whole."

Amy Darefsky, MPH, PhD
December 2005



"AFIP's research programs in multiple fields such as oncology provide invaluable services. In researching the diagnosis of a family member's rare melanoma, there was a dearth of related journal articles. However, an article published by the AFIP allowed a retrospective analysis of 115 cases, which provided the reader with far more insight than individual case studies."

Amy Darefsky, MPH, PhD

Clinical Follow-Up Program. The division's laboratory for DU analysis provided analytical support to USCHPPM, WRAMC-Health Physics and Preventive Medicine Programs, and the Deployment Health Support Directorate.

The Division of Biophysical Toxicology also maintains 3 registries related to the Global War on Terror. The Leishmaniasis Registry is disease-specific and was established in collaboration with the Division of Infectious and Tropical Diseases Pathology to monitor cases of leishmaniasis from Southwest Asia following Operations Noble Eagle, Enduring Freedom, and Iraqi Freedom. Division staff have been actively involved in developing the new data center and in redesigning computerized records for the Tissue Reaction to Drugs Registry. We have identified suspected biological agents and other unknowns using infrared and Raman spectroscopy and scanning electron microscopy with energy dispersive x-ray analysis. We also developed the AFIP-DoD-GEIS Directory of Public Health Laboratory Services, now available online. The database lists 45 Army, Navy, and Air Force laboratories and 170 environmental agents and diseases.

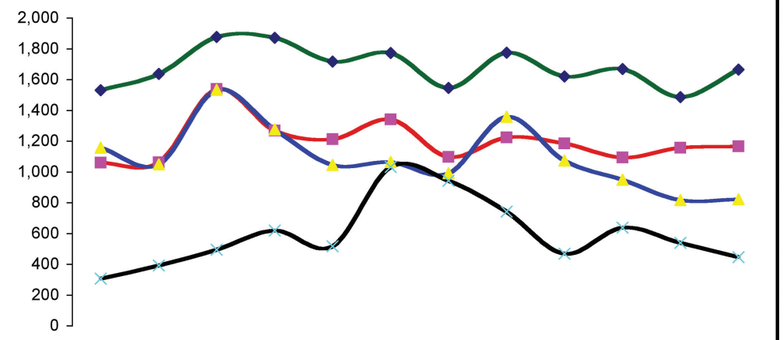
INFECTIOUS AND TROPICAL DISEASES PATHOLOGY

Historically, malaria, smallpox, and other infectious diseases have been a major cause of morbidity in the military. In the context of the Global War on Terror, they are also a major concern for homeland security. Our division is the only group of pathologists in the world dedicated exclusively to the pathology of infectious diseases. Through state-of-the-art staining methods and microscopy, our experts can identify a host of bacteria, fungi, mycobacteria, helminths, viruses, and other parasites. Our collective experience observing tissue reaction to countless etiologic agents from around the world has given us world-class expertise in identifying infectious diseases rarely encountered by clinicians outside developing countries.

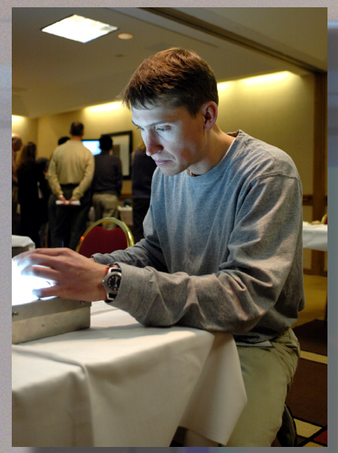
MEDICAL EDUCATION

The Department of Medical Education supports the mission of the AFIP and ARP to carry out educational activities in partnership with government, academic, and private sector organizations for the benefit of individuals and their health care professionals. We support continuing medical education in pathology,

Total Consultation Cases 2005



	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05
Military	1,528	1,633	1,874	1,868	1,714	1,770	1,542	1,771	1,617	1,665	1,482	1,662
VA	1,056	1,058	1,535	1,265	1,210	1,337	1,094	1,220	1,181	1,090	1,154	1,163
CIV	1,154	1,046	1,530	1,272	1,041	1,061	987	1,354	1,069	945	813	818
Other	304	388	491	615	514	1,028	939	738	465	634	536	442



ATTENDANCE AT LIVE COURSES 2000-2005

Attendees	2000	2001	2002	2003	2004	2005
Military	288	444	389	356	592	478
DoD	40	56	11	22	50	40
VA	61	55	37	38	24	33
Civilian	3,218	2,938	2,548	2,012	2,094	2,360
TOTALS	3,607	3,493	2,985	2,428	2,760	2,911

"Because its daily consultation practice involves many of the world's most difficult cases of disease, the AFIP is able to offer educational courses based on truly unique resources and expertise."

Michael L. Wilson and L. Barth Reller
***Clinical Infectious Diseases*, 2005**

"In addition to hundreds of articles and book chapters, the AFIP has published numerous textbooks, technical monographs, and other references, including the ongoing tumor pathology fascicles that are among the most widely used references in surgical pathology."

Michael L. Wilson and L. Barth Reller
***Clinical Infectious Diseases*, 2005**

radiology, and other related medical disciplines by providing specialized information and advanced research and technology in the study of the pathophysiology of disease. In 2005, the Institute offered 33 live courses, one regularly scheduled conference with 62 sessions, 24 Grand Rounds videoteleconferences, 38 Weekly Professional Staff Conferences, and 6 Web-based courses, among other educational offerings. Further expanding our impact, the Department of Legal Medicine's "Open File" was sent to 7,905 pathologists, clinicians, legal medicine professionals, veterinary pathologists, radiologists, dentists, forensic anthropologists, military and civilian residents, and professionals in related disciplines.

The courses we offer cover most of the subspecialties in pathology. We use numerous approaches to determine how courses are structured and what information to include, and employ numerous strategies to assess the needs of participants. We also assess scientific advances in the field of pathology and medicine, seek the consensus of expert pathologists and clinicians, solicit feedback from potential and actual attendees at our programs, and monitor the media to determine issues and topics of importance to the public. The effectiveness of these audience assessment activities can be seen in the overwhelmingly positive evaluations we receive from course participants.

RADIOLOGIC PATHOLOGY

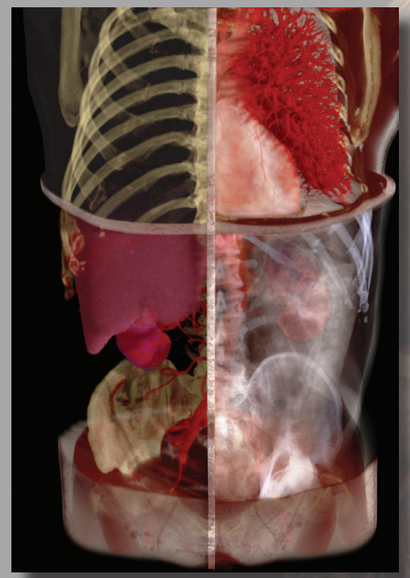
In 2005, members of the department were instrumental in installing and integrating multidetector computed tomography (MDCT) into the forensic autopsy process at the Dover Port Mortuary. The Virtual Autopsy Program is the world's first use of MDCT in routine forensic evaluation. In publications and presentations, our staff has defined the imaging features and utility of MDCT in the examination of high-velocity gunshot wounds, and compared MDCT to digital radiography in forensic evaluations. MDCT was employed in over 1,000 autopsy investigations during the year, contributing to military operations in Iraq and to the field of forensic radiology.

PULMONARY AND MEDIASTINAL PATHOLOGY

Our staff are among the world's foremost authorities on thoracic pathology. We provide state-of-the-art consultative work for pathologists worldwide in pulmonary, pleural, and mediastinal pathology. We are the only pathology consultants who work closely with a world-class thoracic radiologist and pulmonologist to provide complete clinicopathologic and radiologic consultation. We played a key role in diagnosing acute eosinophilic pneumonia in several fatal cases of severe respiratory illness in military personnel in Iraq and Afghanistan. An AFIP Hot Topic on acute eosinophilic pneumonia is available on the Web and provides up-to-date information on diagnosis to military physicians serving in the Middle East.

DERMATOPATHOLOGY

Our pathologists consult on the highest volume of cases of any department in the Institute. Many of these are difficult cases, such as melanocytic lesions, that could present high-risk medicolegal problems. Of the nearly 10,000 cases we reviewed in 2005, we changed the contributor's diagnosis in 235 cases, greatly changing the treatment outcome and leading to a potential saving of millions of dollars in medical malpractice suits. We provide extensive training to military and civilian residents throughout the year, and our Dermatopathology Fellowship Training Program for military physicians is the only one of its kind in the DoD.



“This is no ordinary museum. After all, its newsletter is called Flesh and Bones. The museum and two warehouses hold 5,000 skeletal specimens, 10,000 preserved organs and 12,000 microscopes, surgical instruments and other objects. It may seem a bit ghoulish. But this is serious business for the museum staff.”

The Dallas Morning News
6 August 2005

“Medicine is important to the military and military medicine is important to the nation.”

Adrianne Noe, PhD
Director, NMHM
***Association of the U.S. Army News*, April 2005**

HarperCollins/ANATOMICAL TRAVELOGUE INC.

TELEMEDICINE

In 2005, as part of the expansion and evolution of the telemedicine program at the AFIP, the largest of its kind in the world, the Department of Telemedicine assumed full control of the Army Telepathology Program. Through a competitive program, the department received a $1M grant to update telepathology capabilities at the Army’s 12 busiest pathology laboratories, including the 10th Combat Support Hospital in Baghdad. The new systems provide these laboratories with virtual slide capability that represents the cutting edge of innovation and technology. Our expert staff provides near real-time diagnosis of difficult cases, along with quality assurance and peer review to Army pathologists and labs in a fraction of the time required by traditional methods.

Our department provides efficient turnaround time in a broad range of telemedicine services for civilian professionals and medical facilities around the world, and digital imaging support and slide scanning services for AFIP researchers, other government agencies, and international pathology organizations. In support of medical education, we offered 6 virtual slide-based courses and conferences in 2005, including the Registry of Toxicologic Pathology for Animals virtual conference.

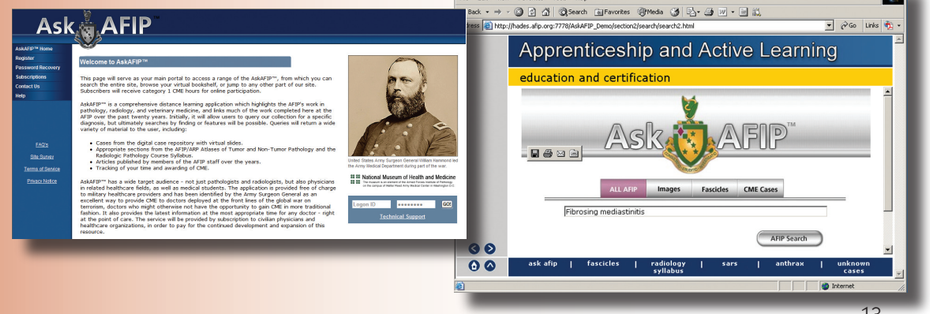
AskAFIP™

In 2005, the Department of Telemedicine premiered version 1 of AskAFIP™, an innovative educational resource for military and civilian pathologists, radiologists, and specialists in related fields. AskAFIP™ combines digitized images and virtual slides from our vast case repository, with descriptions by AFIP’s expert staff, links to PubMed articles and the world-renowned AFIP/ARP tumor and nontumor fascicles, and online syllabi for several AFIP courses, including the internationally recognized course on radiologic-pathologic correlation.

Unlike traditional online experiences, where content is presented in modules or lessons, AskAFIP™ puts control of knowledge flow in the hands of the user. Navigating the site is simple and intuitive even for a novice. For instance, the user can begin a session by searching a key word or phrase. From the many knowledge stores in its vast database, AskAFIP™ will display a range of successful hits, such as a page from a fascicle, an illustrated case from one of the Institute’s many digitized study sets, or a portion of a video lecture. Medical students or pathology residents can review virtual slides representing diseases affecting a particular organ system, along with a wide array of gross, histologic, and radiographic images of each entity.

A unique model for tracking and awarding CME credit reinforces the freedom of learning that AskAFIP™ offers. We believe the innovative design of AskAFIP™ represents the cutting edge of online medical education.

AskAFIP™ is free to military clinicians and, in 2006, will be available to civilian clinicians by subscription. The site is accessible from the AFIP public website or by logging on to www.askafip.org.



“Our strategy is to be a world-class, top-tier scientific organization by turning cutting-edge science into breakthrough techniques and methodologies. The different perspectives of our diverse workforce help us find solutions to the many challenges that science and the times present.”

Florabel G. Mullick, MD, ScD, FCAP, SES
Principal Deputy Director, AFIP

The work of the Armed Forces Medical Examiner System is invaluable in promoting real-time force protection, aviation safety, and administration of justice.

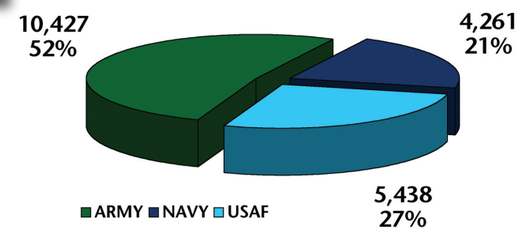
ARMED FORCES MEDICAL EXAMINER SYSTEM

In 2005, our medical examiners rendered diagnostic consultations in more than 200 cases as part of medicolegal investigations by military agencies (NCIS, CID, OSI), the FBI, ATF, CIA, and the U.S. Secret Service, and also deployed to Dover Port Mortuary for 200 days of the year to account for more than 850 service members who died while serving in Iraq and Afghanistan. Data collected by our medical examiners have contributed to research on battlefield ballistic injuries and the development of new-generation body armor. Several of the AFMES’s consultations have proven invaluable in promoting aviation safety and administration of justice.

DoD DNA REGISTRY

The Registry undertakes DNA identification of human remains, information technology development, mass fatality management, and DNA reference specimen collection, storage, and retrieval for the DoD. The identification of unaccounted-for service members from all American armed conflicts is increasingly reliant upon the use of mitochondrial DNA. The Armed Forces DNA Identification Laboratory (AFDIL) has been the recognized world leader in this technology since 1994. In 2005, members of AFDIL shared their expertise in mass fatality incidents in a highly successful deployment to Louisiana and Mississippi in the aftermath of Hurricane Katrina. No other federal or commercial enterprise is better equipped, staffed, or trained to undertake a mission of such magnitude. Team members developed and implemented a plan for victim identification that met and exceeded the requirements of FEMA and the Department of Homeland Security.

Military Consultation Cases 2005



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Toll-free Tel: (800) 577-3749 (in U.S.)

Toll-free Fax: (800) 441-0094 (international)

Case Accessions — 202-782-1630

Medical Information Release — 202-782-2424

Public Affairs — 202-782-2115

American Registry of Pathology — 202-782-2102

Military Personnel — 202-782-2526

National Museum of Health and Medicine — 202-782-2200

AFIP Key Personnel

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Robert D. Foss, CAPT, MC, USN — Associate Director, Navy

Adrianne Noe, PhD — Director, National Museum of Health and Medicine, AFIP

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